

Bio 101 - General Biology
Spring 2018 Syllabus and Schedule
Lecture: MW 9:35-10:50, SCI D 102

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Office hours: Th 8-12 am, and by appointment

Course Description

This course introduces non-major students to the basic principles of Biology and acquaints them with the diversity of life. We will explore basic cellular-level processes, genetics and reproduction, evolution, biological diversity, animal physiology, and how organisms relate to one another within their environments, with special emphasis on the applicability and relevance of biological concepts, knowledge, and technology to average citizens.

Student Learning Outcomes

Students completing this course will attain varying levels of proficiency in their ability to:

1. Solve problems through application of the scientific method.
2. Discuss biological principles including:
 - cellular level functions that are necessary for life
 - inheritance and evolutionary change
 - the diversity of animals and plants within an evolutionary context
 - the function of animal organ systems
 - the basic functioning of populations, communities, and ecosystems
3. Discuss the relevance of biological principles to their lives and society.

Required texts:

Taylor MR, SJ Simon, JL Dickey, K Hogan, and JB Reece. 2018. **Campbell Biology: Concepts and Connections, 9th ed.** Benjamin Cummings/Pearson, Boston.

Biology 101 Lab Manual, Available in the Campus Book store.

Attendance Policies

Attendance at lectures will help you to perform well on exams. There is no formal attendance requirement for lectures, but there are often quizzes and assignments during lecture for which you will receive points. If you are absent from lecture, you will not be able to make up these points.

Your lab activities count for approximately 25% of your grade in this course. Attendance in labs is required. Each week, you will watch an on-line prelab video, complete an on-line pre-lab quiz (3 points). These assignments must be completed **BEFORE** the beginning of your lab section. You will also submit a lab report worth 8 points. These assignments are provided to help you focus your learning and to give you a direct grade-incentive to attend labs. They are not, however, the educational focus of the lab. Performing the lab assigned for any given week and interpreting the results you obtain provide the educational value of lab. Therefore, there are no make-ups for lab reports or pre-labs missed due to absence. Lab materials will be covered on the exams administered in Lecture (see exam attendance below.)

Attendance at exams is required. In general, the reasons that you miss an exam should be the same as those for which you would miss your wedding or a job interview. Make-up exams are difficult to administer, and students usually do poorly on them. Because of this, it is best to avoid make up exams if you can. If, however, you are very ill, in court, have a dental emergency, death in the family, etc., you can take a make-up exam. In order to qualify for a make-up exam, you

must provide a written, verifiable excuse from an authorized party (doctor, dentist, minister, etc.) within one week of the missed exam. This excuse should clearly articulate that you were UNABLE to make it to class for the exam, including a timetable for restriction from work or school. **All make-ups for Exams I and II will be held in the lab room at 4 pm on December 15, 2017.** If you have a conflict with this time, please inform me in advance, so other arrangements can be made for your make-up exam. **Make-ups for Exam III and the final exam will by appointment.**

Behavioral Expectations

In order to keep the course running smoothly, and to ensure that all students have a good learning environment, I have the following expectations of students in this course:

1. Arrive on time, and take your seat promptly, so that the lecture can begin at 9:30. It is rude and disruptive to others to arrive late.
2. Please silence phone, and keep them put away during lecture.
3. Please keep computers/tablets put away during lecture.
4. Please refrain from talking or having side conversations during lecture, unless part of an organized activity.
5. If you have a question during lecture, please raise your hand and wait to be called on.
6. Dress appropriately! Shoes must be worn in all academic buildings. In lab, you must wear closed-toe shoes, pants, and shirts with some type of sleeve. Students arriving in inappropriate attire will not be allowed in lab.

Students who are disruptive may be asked to leave the lecture. Students who are exhibit a pattern of disruptive behavior may be referred to the Dean of Students.

Grading

My philosophy of grading is that **student learning is paramount**, and should be rewarded even if it does not occur according to *my* schedule. Therefore, this course is designed to allow you to improve your grade when possible. Your grade in this course will be based on the following:

1. **Exams.** Exams will cover assigned readings, lecture, and lab material. They will contain a combination of T/F, multiple choice, matching, and short answer questions. There are three regular exams, each covering 1/3 of course material, and a **comprehensive final** (aka **Final Redemption**). Each exam will be worth 110 points (100 pts Lecture, 10 pts lab). Consult the course schedule for the exact date of each exam.
 - Sometimes, students get off to a rocky start. It's important to identify what is and is not working for you and to make corrections to your study behaviors if your performance indicates that you're not succeeding. To motivate you to do that, I will award bonus points for improvements in exam performance from Exam I to Exam II, and from Exam II to Exam III, as long as both exams are completed.
 - a. Any higher exam score = 2 bonus points.
 - b. For improvements greater than 5% of the total exam score, I will award additional bonus points totaling $\frac{1}{2}$ of the difference between the two scores. So, for example, if you score 77 on Exam I, and 88 on Exam II, you will receive 2 bonus points for improvement, and 5.5 additional bonus points for the improvement being substantial.
 - If a student's score on the final exam is higher than their mean exam/bonus point score, exam I-III scores and associated bonus points will be dropped from the final grade calculation, and the final exam score will be multiplied by 4 (hence redemption!).
2. **In-Class Quizzes.** Quizzes will be given during of some lectures, and will cover material from the previous and/or current lectures and/or the day's assigned reading. In order to do well on these quizzes, it is essential that you **STUDY EVERY DAY**. Each quiz will be worth 3 points. You will receive up to 45 points for quizzes. Students not in attendance will NOT be allowed to make up these points. Quizzes will not be announced. There will be around 51 points worth of quizzes during the term, but the maximum possible score is 45 points. This allows you

some flexibility, since you can miss two quizzes, or score less than perfect on several, but still have the ability to score all 45 points.

My expectation is that you will read the assigned chapter BEFORE lecture. When reading, you should be actively engaged, and working to understand the material. Students completing reading worksheets (see example on D2L) and bringing them in for my review (or submitting them in the D2L dropbox) within one week of the will receive a “get out of quiz free” pass. These passes are non-transferable, and give you an automatic 3-point score on the quiz for which they are submitted. In addition, you will receive 1 extra credit point, which will be added to your total score in the course.

3. **In-Class Discussions.** At three points during the term, there will be formal in-class discussions of non-text reading materials. Students are expected to read the articles provided in advance of the discussion and complete a 10-point worksheet, submitted on D2L, prior to the start of class on the day of discussion. In class, students will break into small groups and will complete a summary worksheet based on their discussion. This will also be worth 10 points. No points will be assigned for the in-class discussion summary unless the preparatory worksheet has been completed. Alternate assignments will be provided for excused absences from in-class discussions.
4. **Prelabs.** A prelab video and associated quiz worth 3 points will be posted on D2L for every lab exercise we complete. The goal of the prelabs is to ensure that you are ready to participate fully in the lab exercise. **You will not receive credit for prelab quizzes unless you have watched the entire prelab video.** Most prelab quizzes will take less than 10 minutes to complete. They must be submitted prior to the beginning of your scheduled lab period or you will not receive credit for them. Your lowest score will be dropped.
5. **Lab reports:** Each week, some part of the lab report will be collected and graded, along with the post-lab questions. Answers for post-lab questions must be typed (Times, 12 point, with 1 inch margins) and submitted in the appropriate dropbox folder on the course D2L site before your next scheduled lab meeting. You do not need to turn in a hard copy. The total score for each lab is 8 total points. Your lowest lab report score will be dropped. In general, reports are graded for completeness and thoughtfulness of responses. In order to receive credit for the lab report, **you must attend the lab.** All late lab reports will receive a 10% per day deduction, unless a written excuse is provided. Because of logistics, there are no make-ups for missed labs, even if you are sick.
6. **Extra Credit:** Because interesting opportunities for learning sometimes come up (visiting lecturers, special events, etc), I will occasionally announce small assignments that will yield up to 5 points of extra credit each. You may also earn extra credit points by completing reading notes. Extra credit points will be added to your course total at the end of the term. No extra credit will be provided at the request of students as a means of grade improvement. No more than 20 extra credit points will be applied toward your final grade.

Grading Breakdown

Exams	4 @ 110 points	440 points
Quizzes and Activities	3 pts @ up to 45points	45 points
Discussion Preparation Sheets	3@ 10 points	30 points
Discussion Summary Sheets	3@ 10 points	30 points
Prelabs	Best 13 of 14 @ 3 points	39 points
Lab Reports	Best 13 of 14 @ 8 points	104 points
Total		688 points

Grading Scale

A = 93-100%	B+ = 87.0-89.9%	C+ = 77.0-79.9%	D+ = 67.0-69%	
A- = 90.0-92.9%	B = 83.0-86.9%	C = 73.0-76.9%	D = 60.0-66.9%	F = <60%
	B- = 80.0-82.9%	C- = 70.0-72.9%		

Grades will be available to students on the class site at Desire to Learn. Privacy laws preclude the distribution of grades via email or the phone.

Safe Learning Environment

UWSP values a safe, honest, respectful, and inviting learning environment. In order to ensure that each student has the opportunity to succeed, we have developed a set of expectations for all students and instructors. This set of expectations is known as the *Rights and Responsibilities* document, and it is intended to help establish a positive living and learning environment at UWSP. More information is available at:

<http://www.uwsp.edu/stuaffairs/Pages/rightsandresponsibilities.aspx>

Academic Misconduct

All acts of dishonesty in any work constitute academic misconduct. This includes, but is not limited to, cheating, plagiarism, fabrication of information, misrepresentations of a student's academic performance, and abetting any of the above. This includes submitting papers that reflect the work of a group rather than the work of an individual. **(Be very careful about this. Although you may work in groups for your labs and final lab report, the written work you submit to me MUST BE YOUR OWN INDEPENDENT COMPOSITION.)** The Academic Standards and Disciplinary Procedures of the University of Wisconsin will be followed in the event that academic misconduct occurs. Students should refer to Dean of Students website for more information (<http://www.uwsp.edu/dos/Pages/Academic-Misconduct.aspx>).

Disability and Assistive Technology Center

The Americans with Disabilities Act (ADA) is a federal law requiring educational institutions to provide reasonable accommodations for student with disabilities. For more information about UWSP's policies, check :

<http://www.uasp.edu/stuaffairs/Documents/RightsResps/ADA/rightsADAPolicyInfo.pdf>

If you are registered with the Disability and Assistive Technology Center, please contact me as soon as possible to plan any course accommodations that may be necessary. If you have a disability but have not contacted the DATC, please call 346-3365 or visit 609 LRC to register for services.

Lecture Schedule

Date	Lecture Topics	Reading	Assignments
M Jan 22	1. The Scientific Study of Life	Chapter 1	
W Jan 24	2. The Chemicals of Life	Chapter 2	
M Jan 29	3. Biological Molecules	Chapter 3	
W Jan 31	4. Cellular Structure	Chapter 4	
M Feb 5	5. How Cells Work	Chapter 5	
W Feb 7	6. Chemical Energy in the Cell	Chapter 6	
M Feb 12	7. Photosynthesis	Chapter 7	
W Feb 14	8. Cellular Reproduction	Chapter 8	
M Feb 19	9. In-class Discussion I; Review		Prep. Worksheet I Summary Wks. I
W Feb 21			Exam I
M Feb 26	10. Inheritance	Chapter 9	
W Feb 28	11. Molecular Biology of the Gene	Chapters 10	
M March 5	12. The Road to Darwin	Chapter 13	
W March 7	13. Speciation and Evolutionary History	Chapters 14 & 15	
M March 12	14. Microbes, Protists, Fungi	Chapters 16 & 17	
W March 14	15. Plants	Chapters 17	
M March 19	16. Invertebrate animals	Chapters 18	
W March 21	17. Chordates	Chapters 19	
March 23-31	SPRING BREAK		
M April 2	18. In Class-Discussion II; Review		Prep. Worksheet II Summary Wks. II
W April 4			Exam II
M April 9	19. Gas exchange	Chapter 22	
W April 11	20. Circulation	Chapter 23	
M April 16	21. The Immune System	Chapter 24	
W April 18	22. The Biosphere	Chapters 34	
M April 23	23. Population Ecology	Chapter 36	
W April 25	24. Communities and Ecosystems	Chapter 37	
M April 30	25. Ecosystems & Conservation Biology	Chapters 37 & 38	
W May 2	26. Conservation Biology In-Class discussion III	Chapter 38	Prep. Worksheet III Summary Wks. III
M May 7	27. Review Session; Course wrap up		
W May 9			Exam III
TH May 17	Comprehensive Final Exam	10:15 am -12:15 pm	Final Redemption

Lab Schedule

Week of	Lab Topics
Jan 22	Lab 1. Scientific investigation
Jan 29	Lab 2. Microscopes and Cells
Feb 5	Lab 3. Diffusion and Osmosis
Feb 12	Lab 4. Enzymatic activity
Feb 19	Lab 5. Photosynthesis
Feb 26	Lab 6. Mitosis
March 5	Lab 7. Meiosis
March 12	Lab 8. Natural Selection
March 19	Lab 9. Bacteria and Protists
March 26	SPRING BREAK
April 2	Lab 10. Land Plants
April 9	Lab 11. Animal Diversity
April 16	Lab 12. Circulation and Gas Exchange
April 23	Lab 13. Estimating Population Size: Mark and Recapture
April 30	Lab 14. Food Webs
May 7	Final Redemption Review.